An IR))) (((Receiver for Your PC

··· by *hacnslash* ···

Disclaimer: If you melt your serial port/motherboard/face or anything else as a result of reading this article; neither I, nor the DDP, is responsible! Please have a little common sense when soldering stuff.

Everybody knows that TV's VCR's and DVD players come with remote controls to aid you in not getting up every time you want to switch to another track or channel. PC's are taking over more and more living rooms in the form of digital video recorders (DVR's). Small for factor models come into play, and very few of them come with included remote controls. This article will teach you how to successfully build a receiver and use a remote control with your Linux (or Windows) PC.

First, you must know how a remote control works in order to be able to build a receiver. Every remote has a small infrared led on one end that pulses with different frequencies (depending on the model). If you have a camcorder point it at your remote control's led while pressing a button and you should see the led pulsate. Most household remotes run on 38 KHz, but there are some that use the 36 KHz band and some use still other frequencies.

To be able to use a remote you need a receiver on the PC end. The software packages available use receivers built for the serial port or the parallel port. If possible, try to focus on the serial port, as the hardware on the parallel port is not as functional and supported by the software. These receivers are easy to build, only requiring about 1 hour for the soldering-iron n00bs, while the masters will be done in about 5 to 10 minutes. You only need about 6 parts in all.

The most important part of the receiver, and probably the most expensive, is the infrared receiving IC (or module). This is a small integrated circuit with a small dome on it (usually). It senses infrared radiation of a certain frequency. These can be routinely bought from your local electronic hardware dealer. First of all make sure you KNOW what frequency your remote works on. Then do a little bit of research on what infrared receiver is available at the store (or online). If the frequencies don't match, but are not that far apart (your remote works on 36 KHz but you have a 38 KHz receiver) they will still work but the range will be smaller. I paid $3.65 for my receiver at Radio Shack and prices may vary depending on the store and receiver model.

The other parts needed are a D-sub 9 pin female socket, one 4.7 Kohm resistor, a 1N4148 diode, a 78L05 voltage regulator (the exact regulator that you use is up to you, I used a KA7805) and a 4.7 µf capacitor. I found all of the parts except the diode and IR receiver in my spare parts box (tip: you can get the voltage regulator out of almost any pc power supply). I built my receiver on an old circuit board stripped of all circuits and parts with a dremel. You can choose to build it in air (just use the wired as a skeleton), do what I did, use a breadboard, or even make yourself a PCB. FYI, I drilled the holes using my dremel and an attachment made from an old small screwdriver. This is not new information, so don't send me emails telling me you can find this online, I know you can, but here's the basic instructions as to how you should build the receiver.